

What is claimed is:

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1.

A method for activating and modulating the immune system of an animal comprising:  
growing bacteria in a medium;  
exposing said bacteria to biological, chemical or physical stress for at least one period of time of 20 minutes or less so that the bacteria release a stress response product;  
separating said medium and stress response product from said bacteria to form a separated product;  
filtering said separated product to remove any stress response products having a molecular weight of greater than 10kDa to form a filtrate;  
administering said filtrate to said animal.

2.

The method of claim 1 wherein said step of stressing comprises reducing the bioavailability of nutrients to said bacteria.

3.

The method of claim 2 wherein the bioavailability of nutrients is reduced by transferring the bacteria from a nutrient-rich media to a non-nutritive media.

4.

The method of claim 3 wherein said non-nutritive media comprises saline.

5.

The method of claim 4 wherein said saline media is a phosphate-buffered saline having a pH of about 7.6.

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6.

The method of claim 1 wherein the bacteria is selected from the group consisting of *Lactobacillus*, *Staphylococcus*, *Streptococcus*, *Pediococcus*, *Pseudomonas*, *Bacillus*, *Escherichia*, *Listeria*, *Enterococcus*, and *Klebsiella*.

7.

The method of claim 6 wherein the bacteria is selected from the group consisting of *L. acidophilus*, *L. caseii*, *L. fermentum*, *L. plantarum*, *L. monocytogenes*, *S. aureus*, *S. typhimurium*, *P. acidolactici*, *B. coryneforme*, *E. coli*, *E. faecium*, *S. pyogenes*, and *K. pneumoniae*.

8.

The method of claim 1 wherein the bacteria are propagated at a temperature of 37°C or less.

9.

The method of claim 8 wherein the temperature is in the range of 22°C to 32°C.

10.

The method of claim 1 wherein the bacteria are exposed to a stress while they are in their stationary phase.

11.

The method of claim 1 wherein the filtering step includes:  
passing said separated product through a 0.22  $\mu$ m filter to form a sterilized product; and  
passing said sterilized product through a filter with a molecular weight cutoff of 10,000.

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12.

The method of claim 1 wherein the filtrate containing the SRFs <10kDa is administered to an animal selected from the group consisting of humans, poultry and livestock.

13.

The method of claim 1 wherein the stress response product is administered in a concentration of about 1000 to 50,000 AU of said stress response product/ml.

14.

The method of claim 1 wherein the stress response product is administered in a manner selected from the group consisting of orally, topically, and parenterally.

15.

The method of claim 1 wherein the animal is administered stress response products having a size of between 0.5 and 3 kDa.

16.

The method of claim 1 wherein the stress response products are administered as an adjuvant for oral or parenteral vaccines.

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17.

The method of claim 1 wherein the bacteria are exposed to sequential periods of stress.

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18.

The method of claim 17 wherein the bacteria are exposed to sequential periods of stress by transferring the bacteria from growth media into non-nutritive media, then subsequently transferring the bacteria to non-nutritive media sequentially.

19.

The method of claim 18 wherein the bacteria <sup>are</sup> exposed to three sequential periods of stress.

20.

An immune modulating composition comprising:  
bacterial stress response factors, said stress release factors having a size of less than 10kDa; and  
a pharmaceutically acceptable carrier.

21.

An assay for measuring the stimulating capacities of stress response factors to rescue human monocytes from apoptosis, wherein said assay comprises a means capable of measuring the percentage of viable monocytes in a sample following exposure to stress release factors.

22.

An assay for measuring the potency of stress release factors, wherein said assay comprises a means of determining the percentage of mice that are protected from endotoxins following standardized exposure to stress release factors from various types of organisms.